

Product Data Sheet

Product Name: Podophyllotoxin-d6

Cat. No.: GC49077

Chemical Properties

Cas. No. N/A

SMILES O=C1[C@]2([H])[C@@](C3=CC(OC([2H])([2H])[2H])=C(C(OC)=C3)OC([2H])([2H])[2H])([H])C4=CC(OCO5)=C5C=C4[C@@H]([C@@]2([H])CO1)O

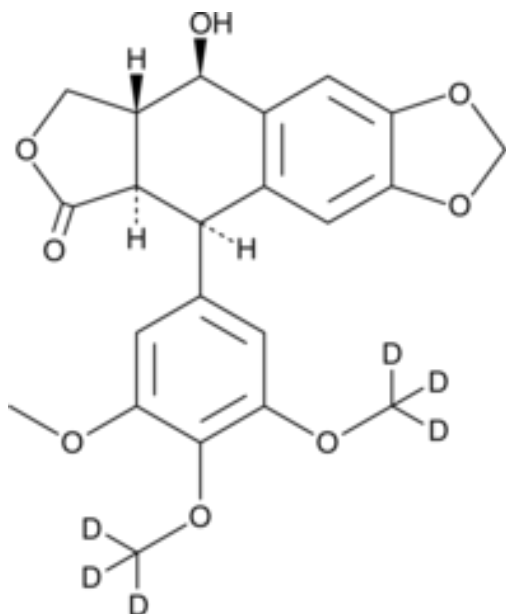
Formula C₂₂H₁₆D₆O₈ M.Wt 420.4

Solubility Acetonitrile: soluble, DMF: Storage -20°C
soluble, DMSO: soluble, Ethanol:
soluble, Methanol: soluble

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

Podophyllotoxin-d₆ is intended for use as an internal standard for the quantification of

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podophyllotoxin and picropodophyllotoxin by GC- or LC-MS. Podophyllotoxin is a lignan that has been found in *Podophyllum* and has diverse biological activities.^{1,2,3,4,5} It inhibits polymerization of isolated chicken brain tubulin ($IC_{50} = 0.6 \mu M$) and induces mitotic arrest at the G₂/M phase in CCRF CEM lymphoblastic leukemia cells when used at concentrations ranging from 0.01 to 5 $\mu g/ml$.^{2,3} Podophyllotoxin (5 μM) is protective against herpes simplex virus 1 (HSV-1) infection in Vero cells.⁴ It inhibits the proliferation of several diffuse large B cell lymphoma (DLBCL) cell lines ($IC_{50}s = 0.0098-0.017 \mu M$).⁵ Podophyllotoxin is a starting material in the semisynthesis of the anticancer compounds etoposide and teniposide.⁶ Formulations containing podophyllotoxin have been used in the treatment of external genital warts.

1.Imbert, T.F.Discovery of podophyllotoxinsBiochimie80(3)207-222(1998) 2.Loike, J.D., Brewer, C.F., Sternlicht, H., et al.Structure-activity study of the inhibition of microtubule assembly in vitro by podophyllotoxin and its congenersCancer Res.38(9)2688-2693(1978) 3.Krishan, A., Paika, K., and Frei, E., III Cytofluorometric studies on the action of podophyllotoxin and epipodophyllotoxins (VM-26, VP-16-213) on the cell cycle traverse of human lymphoblastsJ. Cell Biol.66(3)521-530(1975) 4.Hammonds, T.R., Denyer, S.P., Jackson, D.E., et al.Studies to show that with podophyllotoxin the early replicative stages of herpes simplex virus type 1 depend upon functional cytoplasmic microtubulesJ. Med. Microbiol.45(3)167-172(1996) 5.StrÖmberg, T., Feng, X., Delforouh, M., et al.Picropodophyllin inhibits proliferation and survival of diffuse large B-cell lymphoma cellsMed. Oncol.32(7)188(2015) 6.Xu, H., Lv, M., and Tian, X.A review on hemisynthesis, biosynthesis, biological activities, mode of action, and structure-activity relationship of podophyllotoxins: 2003-2007Curr. Med. Chem.16(3)327-349(2009)

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